RADIO SERVICE BULLETIN

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ABBREVIATIONS.

The necessary corrections to the List of Radio Stations of the United States and to the International List of Radiotelegraph Stations, appearing in this Bulletin under the heading "Alterations and corrections," are published after the stations affected in the following order:

Name =Name of station.
G. loc. =Geographical location: O=west longitude, N=north latitude, S=south latitude.
Call =Call letters assigned.
System =Radio system used and sparks per second.
Range =Normal range in nautical miles.
W. L. =Wave lengths assigned: Normal wave lengths in italics.
Service =Nature of service maintained:
PG=General public.
PR=Limited public.
P =Private.
O =Government business exclusively.
Hours =Hours of operation:
N =Continuous service.
X =No regular hours.
m =a. m. (12 m=midday).
e =p. m. (12e=midnight).
Rates =Ship or coast charges in cents: c=cents. (The rates in the international list are given in francs and centimes.)
I. W. T. Co. =Independent Wireless Telegraph Co.
R. C. of A. =Radio Corporation of America.
S. O. R. S. =Ship Owners' Radio Service.
Co. =Company.
Corp. =Corporation.
& =And.
Do. =Ditto.

NEW STATIONS.

Commercial land stations, alphabetically by names of stations.

[Additions to the List of Radio Stations of the United States, edition of June 30, 1920, and to the International List of Radiotelegraph Stations published by the Berne bureau.]

Station.	Call signal.	Wave lengths.	Service.	Hours.	Station controlled by—
Baytown, Tex.[1]	KDPS	300, 600	PR	X	Humble Oil Refining Co.
Belfast, Me.[2]	WNN	300, 450, 600, 1800	PG	X	International Radio Telegraph Co.
Camp 60, Calif.[3]	KDPV	300, 540, 600	PR	X	Southern California Edison Co.
Camp 61, Calif.[4]	KDPW	300, 540, 600	PR	X	Do.
Cascada, Calif.[5]	KDPU	300, 540, 600	PR	X	Do.
Fall River Valley, Calif.[6]	KDQN	1860	PR	X	Pacific Gas and Electric Co.
New York, N. Y.[7]	WSK	300, 450, 600	PR	X	Panama Railroad Co.
San Diego, Calif.[8]	KDPT	200, 300, 425, 600	PR	X	Southern Electrical Co.
San Francisco, Calif.[9]	KDQO	300, 600, 1650	PR	X	Pacific Gas & Electric Co.

[1] Loc. 8.95° 00′ 30″, N. 29° 44′ 29″; range, 200; system, Thordason & Grebe, 240; rates, none.
[2] Loc. 0.69° 00′ 25″, N. 44° 24′ 50″; range, 200; system, International, 400; rates, ship service 10 c per word. This station is open 23 hours during every 24 hours.
[3] Loc. 0.110° 00′ 00″, N. 37° 15′ 00″; range, 50; system, Deforest; rates, none.
[4] Loc. 0.119° 06′ 00″, N. 37° 18′ 30″; range, 50; system, Deforest; rates, none.
[5] Loc. 0.119° 14′ 00″, N. 37° 12′ 00″; range, 50; system, Deforest; rates, none.
[6] Loc. (approximately) 0.121° 27′ 00″, N. 41° 00′ 00″; range, 500; system, Kilbourne & Clark, 1000; rates, none.
[7] Loc. 0.74° 00′ 55″, N. 40° 45′ 29″; range, 100; system, Telefunken, 1000; rates, 10 c per word to vessels of the Panama R. R. Co. This station is limited to communication with vessels of the Panama R. R. Co. only.
[8] Loc. (approximately) 0.117° 10′ 00″, N. 32° 43′ 00″; range, 150; rates, none.
[9] Loc. (approximately) 0.122° 26′ 00″, N. 37° 48′ 00″; range, 300; system, Kilbourne & Clark, 1000; rates, none.

Commercial ship stations, alphabetically by names of vessels.

[Additions to the List of Radio Stations of the United States, edition of June 30, 1920, and to the International List of Radiotelegraph Stations published by the Berne bureau.]

Name of vessel.	Call signal.	[illegible]		Service.	Hours.	Owner of vessel.	Station controlled by—
		[illegible] and South American service.	Transoceanic service.				
		Cycles.	Cycles.				
Agwistons	KDQP			PG	X	Atlantic, Gulf & West Indies Lines.	I. W. T. Co.
Aladdin	KDQM			PG	X	Standard Transportation Co.	
Antigone	KOKN			PG	N	U. S. Shipping Board.	R. C. of A.
Braddock	KETG	4	4	PG	N	do	Do.
Cairo	KDQW					Marietta Mfg. Co	
Cerro-Azul	KDQY			PG	X	Pan-American Petroleum & Transport Co.	
Cerro-Ebano	KDQS			PG	N	do	
Cigarette	KDQQ						
E. R. Kemp	KDQD	8	8	PG	X	Sinclair Navigation Co.	R. C. of A.
Fairfield City	KDPY			PG	N	U. S. Steel Products Co.	
Fearless	KDRA					Ship Owners & Merchants Tugboat Co.	Owner of vessel.
Frank G. Drum	KDQZ						
Franklin	KDQK			PG	X	Galena Navigation Co.	
Galveston	KDQE	4	4	PG	X	U. S. Shipping Board.	
Gold Star	KDPZ						
Gulf Prince	KDRB						
Jeff Davis	KDQF	4	4	PG	X	U. S. Shipping Board.	
La Placentia	KDPX			PG	X	Union Oil Co.	
Meanticut	KDQH	4	4	PG	X	U. S. Shipping Board.	
Montebello	KDPB	8	8	PG	X	Union Oil Co.	R. C. of A.
Mount Carroll	KDQT			PG	N	Shawmut S. S. Co.	
Oldham	KDQO	4	4	PG	X	U. S. Shipping Board.	
Robert C. Sudden	KDQR			PG	X	Thomas Crowley	
Sea Monarch	KDQU	4	4	PG	X	Ship Owners & Merchants Tugboat Co.	Owner of vessel.
Solano	KDQJ			PG	X	Pacific Mail S. S. Co.	
St. Louis	KDQX					Marietta Mfg. Co	
Sucubaco	KDQL					Submarine Boat Corp.	
Swift Scout	KDQV	4	4	PG	N	U. S. Shipping Board.	
Ward	KDQB	4	4	PG	X	do	
West O'Rowa	KDQI	4	4	PG	X	do	

Commercial land and ship stations, alphabetically by call signals.

[b—ship station; c—land station.]

Call signal.	Name.		Call signal.	Name.	
KDPR	Montebello	b	KDQN	Fall River Valley, Calif	c
KDPS	Baytown, Tex	c	KDQO	San Francisco, Calif	c
KDPT	San Diego, Calif	c	KDQP	Agwistone	b
KDPU	Cascada, Calif	c	KDQQ	Cigarette	b
KDPV	Camp 60, Calif	c	KDQR	Robert C. Sudden	b
KDPW	Camp 61, Calif	c	KDQS	Cerro-Ebano	b
KDPX	La Placentia	b	KDQT	Mount Carroll	b
KDPY	Fairfield City	b	KDQU	Sea Monarch	b
KDPZ	Gold Star	b	KDQV	Swift Scout	b
KDQB	Ward	b	KDQW	Cairo	b
KDQD	E. R. Kemp	b	KDQX	St. Louis	b
KDQE	Galveston	b	KDQY	Cerro-Azul	b
KDQF	Jeff Davis	b	KDQZ	Frank G. Drum	b
KDQG	Oldham	b	KDRA	Fearless	b
KDQH	Meanticut	b	KDRB	Gulf Prince	b
KDQI	West O'Rowa	b	KETG	Braddock	b
KDQJ	Solana	b	KOKN	Antigone	b
KDQK	Franklin	b	WNN	Belfast, Me	c
KDQL	Sucubaco	b	WSK	New York, N. Y	c
KDQM	Aladdin	b			

Government land stations, alphabetically by names of stations.

[Additions to the List of Radio Stations of the United States, edition of June 30, 1920, and to the International List of Radiotelegraph Stations published by the Berne Bureau.]

Station.	Call signal.	Station controlled by—
Annapolis, Md	NZO	U. S. Navy.
Chicago, Ill	KDQA	Post Office Department.
Camp Knox, Ky	WUBC	War Department, Signal Corps.
Camp Meade, Ky	WUG	Do.
Cincinnati, Ohio	KDQC	Post Office Department.
Fort Sill, Okla	WCBD	War Department, Signal Corps.

Government land and ship stations, alphabetically by call signals.

[b—ship station; c—land station.]

Call signal.	Name of station.		Call signal.	Name of station.	
KDQA	Chicago, Ill	c	WUBC	Camp Knox, Ky	c
KDQC	Cincinnati, Ohio	c	WUBD	Fort Sill, Okla	c
NZO	Annapolis, Md	c	WUG	Camp Meade, Ky	c

Special land stations, alphabetically by names of stations.

[Additions to the List of Radio Stations of the United States, edition of June 30, 1920, only.]

Station.	Call signal.	Station controlled by—
Anthony, Kans	9ZAC	Perry E. Thurman.
Ashland, Ohio	8ZN	J. W. Kauffman.
Atlanta, Ga	4ZB	Georgia Railway & Power Co.
Avalon, Calif	6XAD	Lawrence Mott.
Baton Rouge, La	5ZAC	Wilmer L. Barrow.
Battle Creek, Mich	8YN	Battle Creek High School.

Special land stations, alphabetically by names of stations—Continued.

Station.	Call signal.	Station controlled by—
Berkeley, Calif.	6XK	Bernard F. McNamara.
Berkeley, Calif.	6XM	University of California.
Blacksburg, Va.	3XW	Virginia Polytechnic Institute.
Buffalo, N. Y.	8YQ	Independent Wireless Telegraph Co.
Cincinnati, Ohio.	8XY	Cinn Radio Mfg. Co.
Cincinnati, Ohio.	8YS	University of Cincinnati.
Clarinda, Iowa.	9ZAA	Farmers Mutual Telephone Co.
Dallas, Tex.	5XG	Frank M. Corlett.
Davenport, Iowa.	9XE	William H. Kirwan.
Douglas, Ariz.	6ZZ	Harry L. Gooding.
Dublin, Tex.	5XJ	Guy W. Neal.
El Paso, Tex.	5ZAD	A. Le Roy Hill.
Emporia, Kans.	9YAA	College of Emporia.
Fort Pierce, Fla.	4ZN	Otis Atlee Gulledge.
Fresno, Calif.	6ZU	Lloyd E. Martin.
Gainesville, Fla.	4ZC	University of Florida.
Granville, Ohio.	8YM	Richard H. Howe.
Houma, La.	5ZAB	Francis L. Pullen.
Houston, Tex.	5ZAA	Francis M. Austin.
Independence, Mo.	9ZAD	George S. Turner.
Jersey City, N. J.	2XAD	Ship Owners Radio Service.
Joliff, Tex.	5ZW	Donald H. Graham.
Kansas City, Mo.	9XAB	McCreary Radio Supply Co.
Kearney, Nebr.	9ZAB	S. L. Keller.
Knoxville, Tenn.	4XK	Philip Stout.
Lancaster (tugboat).	2XW	Pennsylvania R. R. Co.
La Mars, Iowa.	9YAE	Western Union College.
Lexington, Va.	3YK	Virginia Military Institute.
Los Altos, Calif.	6XAC	Colin B. Kennedy Co.
Milwaukee, Wis.	9YAD	School of Engineering of Milwaukee.
Moscow, Idaho.	7ZM	Jack Woodworth.
New Orleans, La.	5XH	Tropical Radio Telegraph Co.
New York, N. Y.	2XAF	International Radio Telegraph Co.
New York, N. Y.	2XAG	Ware Radio Co.
New York, N. Y.	2XC	Do.
New York, N. Y.	2YM	East Side Y. M. C. A.
Omaha, Nebr.	9XAA	Cramer and Swain.
Ottumwa, Iowa.	9XAD	William W. Harper.
Pembina, N. Dak.	9YAF	Pembina High School.
Philadelphia, Pa.	3ZQ	Stanley C. Bryce.
Pittsburgh, Pa.	8YI	University of Pittsburgh.
Portland, Oreg.	7ZB	John D. Hertz.
Port Richmond, N. Y.	2XAA	Radio Corporation of America.
Rock Island, Ill.	9XAC	Karlsen Radio Corporation.
Richmond, Va.	3ZP	Ralph R. Chappell.
Salt Lake City, Utah.	6ZT	Art Johnson.
San Francisco, Calif.	6XAA	Pacific Telephone & Telegraph Co.
San Francisco, Calif.	6XAB	Colin B. Kennedy Co.
San Jose, Calif.	6XF	Chas. D. Herrold.
Santa Barbara, Calif.	6ZY	Frederick G. Roebuck.
Sisco No. 4 (tugboat).	2XAE	Radio Corporation of America.
South San Antonio, Tex.	5XI	George H. Burgess.
St. Louis, Mo.	9YAB	Washington University.
Superior, Wis.	9YAC	State Normal School.
Walnut Grove, Calif.	6ZX	J. V. Wise.
Washington, D. C.	1XQ	Robert H. Worrell.
Washington, D. C.	1ZW	Walther A. Parks.
Whitford, Pa.	3ZT	George Thomas.
Wichita, Kans.	9XAE	Cosradio Co.
Winfield, N. Y.	2XP	Louis G. Parent.
Woodside, N. Y.	2XAC	Ship Owners Radio Service.
Worcester, Mass.	1XZ	Clark University.

Special land stations grouped by districts.

Call signal.	District and station.
	First district:
1XZ	Worcester, Mass.
	Second district:
2XAA	Port Richmond, N. Y.
2XAB	Sisco No. 4 (tugboat).
2XAC	Woodside, N. Y.
2XAD	Jersey City, N. J.
2XAF	New York, N. Y.
2XAG	Do.
2XC	Do.
2XP	Winfield, N. Y.
[illegible]	Lancaster (tugboat).
2YM	New York, N. Y.
	Third district:
3XN	Blacksburg, Va.
3XQ	Washington, D. C.
3YK	Lexington, Va.
3ZP	Richmond, Va.
3ZQ	Philadelphia, Pa.
3ZT	Whitford, Pa.
3ZW	Washington, D. C.
	Fourth district:
[illegible]	Atlanta, Ga.
4ZC	Gainesville, Fla.
4ZN	Fort Pierce, Fla.
	Fifth district:
5XG	Dallas, Tex.
5XH	New Orleans, La.
5XI	South San Antonio, Tex.
5XJ	Dublin, Tex.
5XK	Knoxville, Tenn.
5ZAA	Houston, Tex.
5ZAB	Houma, La.
5ZAC	Baton Rouge, La.
5ZAD	El Paso, Tex.
5ZW	Joliff, Tex.
	Sixth district:
6XAA	San Francisco, Calif.
6XAB	Do.
6XAC	Los Altos, Calif.
6XAD	Avalon, Calif.
6XP	San Jose, Calif.
6XK	Berkeley, Calif.
6XM	Do.
6ZT	Salt Lake City, Utah.
6ZU	Fresno, Calif.
6ZX	Walnut Grove, Calif.
6ZY	Santa Barbara, Calif.
6ZZ	Douglas, Ariz.
	Seventh district:
7ZB	Portland, Oreg.
7ZM	Moscow, Idaho.
	Eighth district:
8XY	Cincinnati, Ohio.
8YI	Pittsburgh, Pa.
8YM	Granville, Ohio.
8YN	Battle Creek, Mich.
8YQ	Buffalo, N. Y.
8YS	Cincinnati, Ohio.
8ZN	Ashland, Ohio.
	Ninth district:
9YAA	Emporia, Kans.
9YAB	St. Louis, Mo.
9YAC	Superior, Wis.
9YAD	Milwaukee, Wis.
9YAE	Le Mars, Iowa.
9YAF	Pembina, N. Dak.
9XAA	Omaha, Nebr.
9XAB	Kansas City, Mo.
9XAC	Rock Island, Ill.
9XAD	Ottumwa, Iowa.
9XAE	Wichita, Kans.
9XE	Davenport, Iowa.
9ZAA	Clarinda, Iowa.
9ZAB	Kearney, Nebr.
9ZAC	Anthony, Kans.
9ZAD	Independence, Mo.

ALTERATIONS AND CORRECTIONS.

COMMERCIAL LAND STATIONS.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1920, and to the International List of Radiotelegraph Stations, published by the Berne bureau.]

BROOKLYN, N. Y. (WCG).—Range, 800; w. l., 300, 450, 600, 1800.

CHICHAGOF, ALASKA.—*Read* Radioville, Alaska.

NEW BRUNSWICK, N. J.—Range, 3000; system, R. C. of A. (Alexanderson alternator); rates, France 20 c per word, Great Britain 18 c per word from first zone in the United States.

NEW YORK, N. Y. (WHB).—W. l., 300, 600, 2710; service, PR.

SEATTLE, WASH.—Call signal changed from KDOG to KPA.

COMMERCIAL SHIP STATIONS, ALPHABETICALLY BY NAMES OF VESSELS.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1920, and to the International List of Radiotelegraph Stations, published by the Berne bureau.]

ACME.—Range, 300; w. l., 300, 450, 600; rates, North and South American service 8 c per word, transoceanic 8 c per word.

ADDISON.—Strike out all particulars.

ADMIRAL DEWEY.—Range, 150; systems, Marconi, 1000; rates, North and South American service 8 c per word, transoceanic 8 c per word.

ADMIRAL FARRAGUT.—Range, 300; systems, Marconi, 1000; rates, North and South American service 8 c per word, transoceanic 8 c per word.

AGWILAKE.—Rates, North and South American service 4 c per word, transoceanic 4 c per word.
AGWIMARS.—Rates, North and South American service 4 c per word, transoceanic 4 c per word.
AGWIMOON.—Rates, North and South American service 4 c per word, transoceanic 4 c per word.
AGWISEA.—Rates, North and South American service 4 c per word, transoceanic 4 c per word.
AGWISTAR (KFPG).—New York & Cuba Mail S. S. Co. owner of vessel; rates, transoceanic 4 c per word.
AGWISTAR (KDPO).—Rates, North and South American service 4 c per word, transoceanic 4 c per word.
AGWISUN.—Rates, North and South American service 4 c per word, transoceanic 4 c per word.
AGWIWORLD.—Rates, North and South American service 4 c per word, transoceanic 4 c per word.
ALAMO.—Station operated and controlled by I. W. T. Co.
ALBERT E. WATTS.—Rates, North and South American service 8 c per word, transoceanic 8 c per word; station operated and controlled by R. C. of A.
ANTONIO.—Strike out all particulars.
APALACHEE.—Hours, X.
AQUACKANOCK.—Strike out all particulars.
ARADO.—Hours, X.
BACOI.—Gillespie S. S. Corp. owner of vessel.
ARGYLL.—Strike out all particulars.
BALBOA.—Strike out all particulars.
BALDBUTTE.—Hours, X.
BARCOBEL.—Rates, North and South American service 8 c per word, transoceanic 8 c per word; France & Canada S. S. Co. owner of vessel.
BARFORD.—Rates, North and South American service 8 c per word, transoceanic 8 c per word; France & Canada Oil Transport Co. owner of vessel.
BATTABATCHEE.—Hours, X.
BELLA.—Antonio Carozza owner of vessel.
BENOWA.—Pacific Motorship Co. owner of vessel.
CAMDEN (KDKL).—Rates, North and South American service 8 c per word, transoceanic 8 c per word.
CARIB (KJIU).—Rates, North and South American service 4 c per word, transoceanic 4 c per word.
CECIL COUNTY.—U. S. Shipping Board owner of vessel.
CHALLANDA.—Anglo-California Trust Co. owner of vessel.
CHALMETTE.—Rates, North and South American service 8 c per word.
CITY OF DALHART.—Station operated and controlled by R. C. of A.
CLEOPATRA.—Strike out all particulars.
COMMISSIONER.—Service, PG; hours, X; Merritt & Chapman Derrick & Wrecking Co. owner of vessel.
CONUS.—Rates, North and South American service 8 c per word.
CREOLE.—Rates, North and South American service 8 c per word.
CRUSO.—Hours, X.
CUBA (KDLK).—Steamship Cuba, Incorporated, owner of vessel.
CUBORE.—Guaranty Trust Co. owner of vessel.
DAMURU.—Strike out all particulars.
DEEPWATER.—Hours, X.
DIABLO.—Hours, X.

DINSMORE.—Station operated and controlled by R. C. of A.
DONALD McKAY.—Hours, X.
DRYDEN.—Hours, X; station operated and controlled by S. O. R. S.
DURHAM.—Range, 150; system, Marconi, 1000; w. l., 300, 450, 600; station operated and controlled by R. C. of A.
EAST CLIFF.—Strike out all particulars.
EASTERN QUEEN.—Hours, X.
EASTERN SEA.—Hours, X.
ECLIPSE.—Hours, X.
EDELLYN.—Hours, X.
EDGECOMBE.—Hours, X.
EL ALBA.—Rates, North and South American service 8 c per word.
EL ALMIRANTE.—Rates, North and South American service 8 c per word.
EL CAPITAN (KKH).—Rates, North and South American service 8 c per word.
EL CID.—Rates, North and South American service 8 c per word.
EL DIA.—Rates, North and South American service 8 c per word.
ELDORA.—Strike out all particulars.
EL ESTERO.—Rates, North and South American service 8 c per word, transoceanic 8 c per word; station operated and controlled by owner of vessel.
EL ISLEO.—Rates, North and South American service 8 c per word, transoceanic 8 c per word.
EL LAGO.—Rates, North and South American service 8 c per word, transoceanic 8 c per word; station operated and controlled by owner of vessel.
EL MUNDO.—Rates, North and South American service 8 c per word, transoceanic 8 c per word.
EL NORTE.—Rates, North and South American service 8 c per word.
EL OCCIDENTE.—Hours, X; rates, North and South American service 8 c per word.
EL ORIENTE.—Rates, North and South American service 8 c per word.
EL RIO.—Rates, North and South American service 8 c per word.
EL SIGLO.—Rates, North and South American service 8 c per word, transoceanic 8 c per word.
EL SOL.—Rates, North and South American service 8 c per word.
EL SUD.—Rates, North and South American service 8 c per word.
EL VALLE.—Rates, North and South American service 8 c per word.
ETHELMUTE.—Strike out all particulars.
EXCELSIOR.—Rates, North and South American service 8 c per word.
FABBETT.—Hours, X.
FLORIDIAN.—Station operated and controlled by owner of vessel.
FOLSOM.—Hours, X.
FORSTER.—Hours, N.
FORT WRIGHT.—Hours, X.
FREEPORT SULPHUR No. 5.—Range, 300, system, Marconi, 1000; w. l., 300, 450, 600.
GRANITE STATE.—Station operated and controlled by R. C. of A.
GREBE.—Station operated and controlled by owner of vessel.
HAMPTON ROADS.—U. S. Shipping Board owner of vessel.
HANOVER.—Hours, X.
HARRY LUCKENBACH.—Hours, N.
HERA.—Station operated and controlled by R. C. of A.
HERCULES.—Moore Shipbuilding Co. owner of vessel.
HERON.—Hours, X.
HYANNIS.—Hours, X.
ICE KING.—Hours, N.
ICELAND.—Hours, X.

IPSWICH.—Station operated and controlled by owner of vessel.
IRIS.—Pacific Transport Co. owner of vessel.
JOHN ROACH.—Hours, X.
JOHN WORTHINGTON.—Range, 300; system, Marconi, 1000; w. l., 300, 450, 600; station operated and controlled by R. C. of A.
JOSEFA.—Strike out all particulars.
KAWEAH.—Hours, X.
KENNECOT.—Service, PG; hours, X; Alaska S. S. Co. owner of vessel.
KERKENNA.—Name changed to Mount Summit.
KIOWA (KRL).—Rates, North and South American service 8 c per word.
KLAMATH (WSX).—Strike out all particulars.
LAKE FESSENDEN.—Strike out all particulars.
LAKE FLORIAN.—Range, 200; system, Navy, 1000; w. l., 300, 450, 600.
LAKE GREENBRIER.—Hours, X.
LAKE WINONA.—Hours, X.
LARAMIE.—Hours, X.
LAUREL.—Hours, N.
LIBBY MAINE.—Range, 200.
LIVINGSTONE.—Range, 150; system, Marconi, 1000; w. l., 300, 450, 600; rates, Great Lakes service 2 c per word.
L. J. DRAKE.—Hours, X.
LOCKPORT.—Hours, X.
LORAIN.—Range, 300; system, Navy-Marconi, 1000; w. l., 300, 450, 600; hours, X.
LYNDONIA.—Range, 100; system, Deforest; w. l., 300, 600; station operated and controlled by owner of vessel.
MARNET.—Hours, X.
MANGORE.—Guaranty Trust Co.
MARACAY.—C. K. MacFadden owner of vessel.
MARCUS.—Range, 300; system, Navy-Marconi, 1000; w. l., 300, 450, 600.
MINNESOTA (WEK).—Hours, X.
MOMUS.—Rates, North and South American service 8 c per word.
MONTEZUMA.—Strike out all particulars.
MONTFAUCON.—Rates, Great Lakes service 2 c per word.
MOUNT VERNON.—Hours, N.
MURSA.—Hours, N.
MUSKEGON.—Hours, X.
MYSTIC.—Station operated and controlled by owner of vessel.
N. & K. No. 2.—Strike out all particulars.
NAAMHOK.—Range, 300; system, Federal arc; w. l., 300, 600, 1800.
NAGATA.—Range, 300; system, Federal arc; w. l., 300, 600, 1800.
NAMASKET.—Range, 500; system, Federal arc.
NATIRAR.—Range, 300; system, Federal arc; w. l., 300, 450, 600, 1800.
NEHALEM.—Strike out all particulars.
NEPTUNE (KORZ).—Strike out all particulars.
NEW BRITAIN.—Hours, X.
NUECES.—Station operated and controlled by I. W. T. Co.
NUUANU.—Strike out all particulars.
ONEIDA.—Rates, Great Lakes service 2 c per word.
ONONDAGA.—Rates, Great Lakes service 2 c per word.
ORIZABA.—Rates, North and South American service 8 c per word, transoceanic 8 c per word.
OSAGUMSICK.—Hours, X.
OSKALOOSA.—Hours, X.

OSPREY.—Station operated and controlled by owner of vessel.
OUTAGAMIE.—Rates, Great Lakes service 2 c per word.
OZAMA.—Rates, North and South American service 4 c per word, transoceanic 4½c per word.
OZETTE.—Hours, X.
PLYMOUTH (KND).—Hours, X.
POCAHONTAS.—Hours, N.
PYLOS.—Range, 150; system, Marconi, 1000; w. l., 300, 450, 600.
QUISTCONCK.—Hours, X.
RAPIDAN.—Hours, X.
RICHMOND.—Range, 200; system, Kilbourne & Clark, 1000; system, S. O. R. S.
RIO GRANDE.—Station operated and controlled by I. W. T. Co.
ROMULUS.—Hours, X.
SACANDAGA.—Hours, X.
SACCARAPPA.—Hours, X.
SAGUACHE.—Hours, X.
SANTA EULALIA.—W. l., 300, 450, 600.
SANTORB.—Guaranty Trust Co. owner of vessel.
SCOTTSBURG.—Station operated and controlled by I. W. T. Co.
SEA LION.—Range, 150; system, Marconi, 1000; w. l., 300, 600; Ship Owners & Merchants Tug Boat Co. owner of vessel; station operated and controlled by S. O. R. S.
SEMINOLE.—Range, 300; system, Navy-Lowenstein, 1000; w. l., 300, 450, 600.
SEVERANCE.—Range, 200; system, Telefunken, 1000; rates, relaying only 4 c per word.
SEWICKLEY.—Hours, X.
SHORTSVILLE.—Station operated and controlled by R. C. of A.
SIBONEY.—Rates, North and South American service 8 c per word, transoceanic 8 c per word.
SIOUX FALLS.—Rates, Great Lakes service 2 c per word.
SIR TREVOR DAWSON.—Name changed to Charles L. Hutchinson.
SOCONY 84.—Hours, X.
STADACONA.—Name changed to W. H. McGean.
STANDTUG No. 1.—Range, 100; system, Fessenden, 1000; w. l., 300, 450, 600; station operated and controlled by R. C. of A.
STARLITE.—Name changed to Standtow No. 2.
STEEL INVENTOR.—Station operated and controlled by R. C. of A.
STEEL TRADER.—Hours, N.
STEEL WORKER.—Range, 300; system, Marconi, 300, 450, 600; hours, X.
ST. JOHNS COUNTY.—Range, 300; system, Navy, 1000; w. l., 300, 600.
STORM KING (KDJM).—Station operated and controlled by R. C. of A.
STORM KING (KOGM).—Station operated and controlled by owner of vessel.
SUSQUEHANNA (KOLN).—Range, 300; system, Navy, 1000; w. l., 300, 450, 600.
TAVERNILLA.—Strike out all particulars.
TERESA.—Hours, N.
THOMAS H. WHEELER.—Range, 300; system, R. C. of A., 1000; w. l., 300, 600; Standard Oil Co. of New Jersey owner of vessel; station operated and controlled by R. C. of A.
TOPILA.—Rates, North and South American service 8 c per word.
TORRES.—Rates, North and South American service 8 c per word.
TUXPANOIL.—Baltimore Dry Dock & Shipbuilding Co. owner of vessel.
UNION LIBERTY.—Rates, Great Lakes service 2 c per word.
UTINA.—Strike out all particulars.

VANADA.—Station operated and controlled by R. C. of A.
VICTORIUS.—Hours, X.
VIGILANT.—W. l., 300, 450, 600.
WABASH.—Hours, X.
WACOSTA.—Range, 300; system, Federal arc; w. l., 300, 450, 600, 1800.
WACOUTA.—Name changed to Yucatan.
WARBLER.—Station operated and controlled by S. O. R. S.
WARWICK.—Range, 300; system, Federal arc.
WAWALONA.—Hours, X.
WAYUCAN.—Hours, X.
WENATCHEE.—Station operated and controlled by S. O. R. S.
WEST AMARGOSA.—Hours, X.
WEST BRIDGE.—Hours, X.
WEST CAVANAL.—Hours, X.
WEST CARRUTH.—Correct name West Caruth.
WEST ERONE.—Hours, X.
WESTERN CITY.—Hours, X.
WEST HELIX.—Hours, X.
WEST HEPBURN.—Hours, X.
WEST IRMO.—System, Navy-Lowenstein; hours, X.
WEST MANWAR.—Rates, Great Lakes service 2 c per word.
WEST MAXIMUS.—Hours, X.
WEST VACA.—Hours, X.
WILLETT.—Station operated and controlled by S. O. R. S.
WILLIAM A. WHITNEY.—Rates, Great Lakes service 2 c per word.
WILLIAM B. LIVINGSTONE.—Rates, Great Lakes service 2 c per word.
WINNEBONNE.—Hours, X.
WINYAH.—System, Navy; w. l., 300, 450, 600; hours, X.
WISDOM II.—Range, 50; system, composite, 480; service, PG; hours, X; station operated and controlled by owner of vessel.
W. L. STEED.—Hours, X.
W. S. MILLER.—Range, 300; system, R. C. of A., 1600; w. l., 300, 600; station operated and controlled by R. C. of A.
WYE.—Strike out all particulars.
WYTHEVILLE.—Range, 300; system, Marconi, 480–1600; w. l., 300, 450, 600.
YELLOWSTONE.—Strike out all particulars.
YORBA LINDA.—Range, 200; system, I. W. T. Co.; rates, North and South American service 4 c per word, transoceanic 4 c per word, Great Lakes 2 c per word.

COMMERCIAL LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS.

KDOG, *read* KPA; KESJ, *read* West Caruth; KPK, *read* Standtow No. 2; KWW, *read* Radioville, Alaska; WLG, *read* Yucatan; WMIO, *read* W. H. McGean; WMIU, *read* Charles L. Hutchinson; WPJ, *read* Mount Summit. Strike out all particulars following the call signals, KDAJ, KDKI, KDKJ, KEBC, KELF, KELP, KEMB, KEMT, KERS, KIPM, KIQL, KJEE, KORZ, KPEO, KSAU, KSIA, KSUU, WBAU, WHU, WSX, WTB, WWT.

GOVERNMENT LAND STATIONS, ALPHABETICALLY BY NAMES.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1920.]

BROOKS, ALASKA.—Name changed to Livengood, Alaska.

CHICAGO, ILL.—Call signal changed from WWG to KDQA.

GOVERNMENT SHIP STATIONS, ALPHABETICALLY BY NAMES OF VESSELS.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1920.]

PLATTSBURG.—Strike out all particulars.
S. C. 158.—Strike out all particulars.
WOOLSEY.—Strike out all particulars.

GOVERNMENT LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS.

WUV, *read* Livengood Alaska, WWG, *read* KDQA. Strike out all particulars following the call signals, NANJ, NATF, and NOLJ.

SPECIAL LAND STATIONS, BY NAMES OF STATIONS.

CLEVELAND, OHIO (8XO).—Strike out all particulars.
DALLAS, TEX.—Call signal changed from 5ZE to 5ZC.
DETROIT, MICH. (8XR).—Strike out all particulars.
HOUSTON, TEX.—Call signal changed from 5ZC to 5ZE.
MANITOWOC, WIS. (9ZL).—Station operated and controlled by H. J. Burbop.
PORT HURON, MICH. (8XP).—Strike out all particulars.
SUPERIOR, MICH. (8XQ).—Strike out all particulars.

MISCELLANEOUS.

RESTRICTIONS ON SPECIAL AMATEUR STATIONS.

It has been brought to the attention of the Bureau that amateur operators have been purchasing radio equipment which can not be satisfactorily adjusted for the amateur wave length of 200 meters, and because of this they have been applying for special licenses.

Radio inspectors are not authorized to recommend special amateur station licenses except in accordance with paragraph 63 of the "Radio Communication Laws of the United States."

The number of special amateur station licenses must be limited, and very few will be approved for stations along the coast or in localities where the location of such stations may interfere with maritime, Government, or commercial radio communication.

BARRED FROM EXAMINATION.

Recently an applicant for the radio operator examination was barred from reexamination for a period of six months on account of a false statement in his application for examination.

OWNERSHIP OF VESSEL EQUIPPED WITH RADIO APPARATUS.

It has been noticed that the name of the owner given in the application for ship radio station license frequently does not correspond with the name given in the last marine document of the vessel on file in the customhouse at home port of the vessel. In order to have uniformity in the ownership, the radio company operating or controlling the radio station and others interested should see that each application gives the owner shown in the last marine document and the correct official number of the vessel.

When a vessel changes ownership, the outstanding license should be surrendered in order that a new license may be issued showing the new owner.

OPERATORS REQUIRED TO "LISTEN IN" ON 600-METER WAVE LENGTH.

As it is not possible to maintain continuous "listening-in" watch on 600 meters on vessels using wave lengths of 1800, 2200, and 2400 meters for long-distance communication, radio operators on such vessels should be required to "listen in" at intervals of not less than 15 minutes for a period of not less than 2 minutes with the receiver tuned to receive messages on the 600-meter wave length and to maintain a continuous listening-in watch on the 600-meter wave length when the long wave lengths are not being used. This method of listening in is the same as required by the London Convention and regulation 11 of section 4, act of August 13, 1912, concerning listening in by coastal stations.

OPERATORS' LICENSES SUSPENDED

First-grade license No. 22613 issued at New Orleans, La., February 14, 1921, has been suspended for a period of three months on account of the holder of the license violating articles 6 and 8 of the London Convention and section 5 of the act of August 13, 1912, in that he caused interference by transmitting superfluous signals.

First-grade license No. 20056, issued at Philadelphia, Pa., September 22, 1919, has been suspended for a period of three months on account of the holder of the license violating article 6 of the London Convention, in that he caused superfluous signals to be transmitted.

First-grade license No. 23046, issued at New York, N Y October 11, 1920, has been suspended for a period of three months on account of the holder of the license violating article 6 of the International Convention service regulations, in that he caused superfluous signals to be transmitted.

AMATEUR RADIO STATION LICENSES ISSUED DURING FEBRUARY, 1921

During the month of February last, this Bureau issued 1,040 amateur radio station licenses, this being the largest number ever issued during any one month. In comparison, there were issued during February of last year 714.

DRIFTING MINES.

The following is an extract from the New Zealand Gazette of January 20 last "Information has been received that mines have been reported in latitude 38° 12′ S., longitude 150° 19′ E. Mariners are instructed to keep a good lookout for mines when in this locality and, if seen, report by radio to the harbor master at the next port of call."

NEW RATES FOR SOUTHERN PACIFIC CO.

The new rate of 8 cents per word, shown in "Alterations and Corrections" of this publication, for the vessels owned and operated by the Southern Pacific Co., will be effective beginning May 1, this year

NEW RATES FOR RADIO CORPORATION OF AMERICA.

The Radio Corporation of America has been authorized to charge 5 cents per word for both the North and South American service and the transoceanic service, beginning May 1, this year. This rate does not apply to vessels owned by the Shipping Board. The vessels to which the new rate applies will be published in the Radio Service Bulletin for May

GENERAL INFORMATION FROM THE BERNE INTERNATIONAL BUREAU.

British Indies.—Beginning April 1, 1921, the coast charge of the stations, the signaling status of which figures in Supplement No. 7 of the official nomenclature of

radiotelegraphic stations under the title "British Indies," will be raised from 0 fr 55 to 0 fr 60 per word and the inland charges, that figure in Part III of the nomenclature under above title, will be raised from 0 fr 05 to 0 fr 10 per word.

These changes will be published in the next supplement to the nomenclature.

Italy.—The Italian administration asks that the countries and companies interested will send directly to the "Director General of Electric Services," Service II (Telegraphs), and not to the Marconi Co., all accounts relating to radiotelegram exchanges between Italian commercial ship stations and foreign coast stations.

Italian Somalia.—Since February 13, 1921, the telegraphic charge applicable to radiotelegrams originating in or intended for Italian Somalia and exchanged directly with coast stations of this colony is 0 fr. 67½ per word for ordinary radiotelegrams, minimum 4,70½ fr per radiogram, and 2 fr. 01½ per word for urgent radiotelegrams, minimum 14,11½ per radiogram. (NOTE.- The minimum charge per radiotelegram is the same as the charge for 7 words.)

In addition, there is to be struck out, under the title Somalie Italian, in section 1, Part II of the nomenclature (columns 9 and 10), note 1, referring to the coast stations of this country.

These modifications will also be published in the next supplement to the official nomenclature of radiotelegraphic stations.

Australia.- The radio station of "Roebourne" has been closed to public correspondence since February 7, 1921

Great Britain. The only restrictions in force are the following

Radiotelegrams of a private nature are not accepted for transmission to destination either coming from a coast station or a ship station under British authority in the Black Sea and Sea of Marmora. In these waters, the only messages admitted are the following

1. Radiotelegrams for Government service.

2. Radiotelegrams in plain language exchanged between the captain and the proprietors or agents of a ship, concerning the safety or movements of the vessel.

Requests and replies Requests made upon the coast stations of the United Kingdom by ships on the subject of special services carried by these stations (using meteorological bulletins, etc have become so numerous that they interfere with the ordinary service of the stations. Up to this time no charge has been made for these requests, however, in consideration of the fact that the information touching these special services carried on by the coast stations is published in the official nomenclature of radiotelegraphic stations and in the supplements relating to it, the British office has decided that beginning March 1, the usual charges will be equally applicable to all requests and replies relating thereto.

Tripoli.—The Italian office informs us that private radiotelegrams in cipher language are not accepted for Tripoli. However, private radiotelegrams in language agreed upon, for the same destination, are accepted if they correspond with the prescribed code of the colonial Government.

Australian Federation. On January 14 the Mount Gambier coast station was definitely closed.

Denmark.—The number of three-letter calls reserved for Denmark having been used, the Danish administration informs the International Bureau that it has decided to use four-letter combinations, beginning as follows: OG, OH, OI, OU, OV, OW, OX, OY, and OZ.

Finland.—The Finland Administration of Telegraphs, by letter of January 13, informs us that they propose to adhere to the dispositions of the Radiotelegraphic Convention and the rules annexed thereto in radiotelegraphic correspondence.

Guadeloupe.—By letter of January 12, the Minister of the French colonies informed us that special radiograms according to Article XXXVIII of the International Radiotelegraphic Regulations are admitted to Guadeloupe. However, radiotele-

grams to be sent by express are accepted only in cases where the extra amount of express charge is collected at the point of destination. The Colonial Minister adds that the rate is 0 fr 50 for the first kilometer and 0 fr 30 for each additional kilometer or fraction thereof.

Martinique.—By letter of the 17th of January, the Minister of French colonies informed us that Martinique accepts urgent radiotelegrams and those to be sent by express. The charge applicable to the first, when they originate or are intended for Martinique and exchanged directly with the coast station, Fort of France, is 1 fr 20 per word (being a coast station charge of 0 fr. 90 and an interior charge of 0 fr 30) and thus applicable to express is 0 fr 50 per kilometer

We would add that the extra express charges are collected at destination.

New Hebrides.—The Minister of French colonies informs us that the Port-Vila station is equipped to use wave lengths longer than 300 meters.

Norway. -Beginning January 1, 1921, the charges indicated in Part III of the official nomenclature of radiotelegraphic stations under the title of "Norway" are changed as follows.

	Radiotelegrams.	
	Ordinary.	Urgent
A. Radiotelegrams originating in or intended for Norway	0.14 fr. per word, 1 fr. 40 per radiogram, minimum.	0.42 fr. per word, 4 fr. 20 per radiogram, minimum.
B. Radiotelegrams originating in or intended for Denmark or Sweden:		
(a) Up to 10 words	1.80 fr. per message.[1]	5.40 per message.[1]
(b) For each additional word	0.14 fr. per word.[1]	0.42 fr. per word.

[1] This charge includes the whole of the telegraph charges accruing in Norway and Denmark or Sweden.

WARNING TO AMATEURS.

Amateurs desiring to continue the operation of their stations must apply for renewal of their station and operator licenses at the time of expiration The operation of stations after the licenses expire is a violation of section 1, act of August 13 1912. penalty $500, and the apparatus or device so unlawfully used and operated may be adjudged forfeited to the United States. Amateurs discontinuing the use of their stations should surrender their licenses to the radio inspector of the district for cancellation Where amateurs fail to make application for renewal of their licenses at the time of expiration, their names may not be included in the next radio call book and the call letters assigned may be rescinded and assigned to other stations.

DISTRIBUTION OF WEATHER FORECASTS, WARNINGS, AND INFORMATION BY NAVAL RADIO FOR ATLANTIC COAST, GULF OF MEXICO, AND CARIBBEAN SEA

(Effective Nov 20, 1920.)

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU,
Washington, October 16, 1920.

For several years the Office of Communications of the Navy Department has broadcast through its radio stations weather information, forecasts and warnings furnished each night by the United States Weather Bureau. This service has expanded to a considerable extent since its inauguration and has necessitated the issuance of several circulars containing amendments and announcements of additional radio station distributions. The information contained in previous announcements is combined in this circular, which supersedes all previous circulars.

The information concerning wave lengths given herein is tentative only and will probably be changed to conform with the new International Radiotelegraph Convention as soon as the conference which is now working on that document has completed its labors.

EXPLANATION OF BULLETINS.

The bulletins broadcast from each radio station are of the same general character, are based upon observations at 8 p. m., 75th meridian time, of the date of distribution, and contain reports, forecasts, and warnings.

The bulletins are divided into two parts and invariably begin with the letters USWB.

The first part is a report of actual weather conditions at 8 p. m., 75th meridian time, at certain stations. Each place is indicated by a code letter (or letters) which is followed by figures showing barometric pressure, wind direction, and wind force at that place. The first three figures express actual barometer readings, in inches, reduced to sea-level. The fourth figure is wind direction: 1=north, 2=northeast, 3=east, 4=southeast, 5=south, 6=southwest, 7=west, 8=northwest, 0=calm. The fifth and last figure is wind force in the Beaufort scale, except when winds of force greater than 9 occur, words instead of figures will be used. If the weather conditions from any station can not be supplied, the initial of the station will be given, followed by the word "missing," and if any portion of a report can not be furnished such portion will be replaced by an equivalent number of the letter "x."

Scale of wind force.

Beaufort scale; force.	Designation.	Statute miles per hour.
0	Calm	From 0 to 2
1	Light air	Over 2 to 5
2	Light breeze (or wind)	Over 5 to 13
3	Gentle breeze (or wind)	Over 13 to 18
4	Moderate breeze (or wind)	Over 18 to 23
5	Fresh breeze (or wind)	Over 23 to 28
6	Strong breeze (or wind)	Over 28 to 34
7	Moderate gale	Over 34 to 40
8	Fresh gale	Over 40 to 48
9	Strong gale	Over 48 to 56
Ten[1]	Whole gale	Over 56 to 65
Eleven[1]	Storm	Over 65 to 75
Twelve[1]	Hurricane	Over 75.

[1] Whenever winds of force greater than 9 occur, words instead of figures will be used.

The second part of the bulletin consists of wind and weather forecasts and, whenever conditions warrant, information as to storm-centers, storm and hurricane warnings, and advices to shipping. The wind and weather forecasts are for 24 hours, beginning at midnight. The zones to which the forecasts apply are identified by the chart on page —. Whenever a storm exists that is likely to affect a section, the location and expected direction of movement of the storm-center will be given, followed by any storm or hurricane warnings and advices to shipping that have been issued.

EXAMPLE OF BULLETIN.

(First part.) USWB J 01662 S 00663 FP 96821 ML 95427 T 96846 NY 93258 DB 92888 LB 95612 CH 94216 H 94845 AV 98282 C 96682 B 00661, etc.

(Second part.) Winds off Atlantic coast north of Sandy Hook will be shifting gales with rain. Sandy Hook to Hatteras, northwest gales with rains followed by clearing weather. Hatteras to Florida Straits, strong northwest winds; fair weather. Storm of marked intensity central off New Jersey coast moving northeastward. Storm warnings displayed Hatteras to Eastport.

TRANSLATION OF BULLETIN.

USWB = United States Weather Bureau.

J	91862	St. Johns,	barometer,	[illegible]	wind direction,	SW.	wind force, 2
S	00663	Sydney,	"	[illegible]	"	SW.	" 3
FP	98821	Father Point,	"	[illegible]	"	NE.	" 1
ML	95427	Montreal,	"	29.54	"	NE.	" 7
T	95346	Nantucket,	"	29.58	"	SE.	" 6
NY	93256	New York,	"	29.27	"	S.	" 8
DB	92888	Breakwater,	"	29.25	"	NW.	" 3
LB	93612	Lynchburg,	"	[illegible]	"	N.	" 2
CH	94216	Cape Henry,	"	29.42	"	N.	" 6
H	94645	Hatteras,	"	29.46	"	SE.	" 6
AV	93293	Asheville,	"	[illegible].52	"	NW.	" 2
C	93582	Charleston,	"	29.60	"	NW.	" 3
B	00861	Bermuda,	"	29.95	"	SW.	" 1

The second part of the bulletin is always in plain language and requires no translation.

The chart on page 4 shows the location of many of the regular observation stations maintained by the Weather Bureau on the continent and in the Gulf of Mexico, and the Caribbean Sea, within the confines of the map; also Canadian stations. Key letters are indicated under stations reports from which are given radio distribution. These reports, supplemented by others picked up from vessels, can be used, as illustrated on the chart, in the production of a quite comprehensive weather map, which will be of much value to navigating officers. Observations radiographed from vessels are in a code prepared by the Weather Bureau for "Vessel Weather Observers" and are easily translated by the use of that code.

DISTRIBUTING STATIONS.

Following is a list of Naval radio stations from which distributions are made, and the composition of the bulletins distributed by them:

Arlington, Va.—Sending time, a few minutes after 10 p. m., seventy-fifth meridian time. Wave length, 2,500 meters. Beginning June 1, 1921, a wave length of 2,650 meters will be used in place of 2,500 meters.

Observation stations contained in first part and code letters.		Second part of bulletin.
St. Johns, Newfoundland	J	Winds off Atlantic coast north of Sandy Hook.
Sydney, Nova Scotia	S	Winds off Atlantic coast, Sandy Hook to Hatteras.
Father Point, Canada	FP	Winds off Atlantic coast, Hatteras to Florida Straits.
Montreal, Canada	ML	Storm warnings, Eastport, Me., to Key West, Fla.
Nantucket, Mass	T	Location and expected direction of movement of storm-centers affecting Atlantic coast.
New York, N. Y	NY	All hurricane warnings and advices.
Breakwater, Del	DB	
Lynchburg, Va	LB	
Cape Henry, Va	CH	
Hatteras, N. C	H	
Asheville, N. C	AV	
Charleston, S. C	C	
Bermuda	B	
Atlanta, Ga	AT	
St. Louis, Mo	SL	
Little Rock, Ark	LR	
Nashville, Tenn	NV	
Duluth, Minn	DU	
Marquette, Mich	M	
Chicago, Ill	CH	
Detroit, Mich	D	
Buffalo, N. Y	Y	
Cincinnati, Ohio	CN	Period covered by forecasts, 24 hours beginning at midnight.

This station broadcasts about noon, seventy-fifth meridian time, all storm warnings issued in the forenoon for the Atlantic coast and Great Lakes; also broadcasts at night (during the season of navigation on the Great Lakes) the same bulletin distributed by the Great Lakes station and at approximately the same hour.

Key West, Fla.—Sending time, a few minutes after 10 p. m., seventy-fifth meridian time. Wave length 1,500 meters.

Observation stations contained in first part and code letters.		Second part of bulletin.
Hatteras, N. C.	H	Winds off Atlantic coast, Hatteras to Key West.
Charleston, S. C.	C	Winds over east Gulf of Mexico (east of longitude 90°).
Jacksonville, Fla.	JA	Winds over west Gulf of Mexico (west of longitude 90°).
Miami, Fla.	MI	Winds over Caribbean Sea (west of longitude 73°) and Windward Passage.
Key West, Fla.	K	Storm warnings Hatteras to Key West and for Gulf of Mexico.
Pensacola, Fla.	P	Location and expected movement of storm-centers affecting Atlantic coast south of Hatteras and Gulf of Mexico.
Burrwood, La.	BW	Storm warnings Gulf of Mexico, Key West to Brownsville.
Galveston, Tex.	GV	All hurricane warnings and advices.
Brownsville, Tex.	BV	
Fort Worth, Tex.	FW	
Kingston, Jamaica	KN	
Turks Island	TI	
Havana, Cuba	HA	
Guantanamo Bay, Cuba	GO	
Swan Island	SI	
San Juan, P. R.	SJ	Period covered by forecasts, 24 hours beginning at midnight.

Point Isabel, Tex.—Sending time, midnight, seventy-fifth meridian time. Wave length, 2,300 meters.

Observation stations contained in first part and code letters.		Second part of bulletin.
Key West, Fla.	K	Winds over east Gulf of Mexico (east of longitude 90°).
Tampa, Fla.	TA	Winds over west Gulf of Mexico (west of longitude 90°).
Pensacola, Fla.	P	Winds over Caribbean Sea (west of longitude 73°) and Windward Passage.
Mobile, Ala.	MO	Storm warnings for Gulf of Mexico, Key West to Brownsville.
Burrwood, La.	BW	Location and expected movement of storm-centers affecting Gulf of Mexico.
Galveston, Tex.	GV	All hurricane warnings and advices.
Corpus Christi, Tex.	CC	
Brownsville, Tex.	BV	
Kingston, Jamaica	KN	
Swan Island	SI	Period covered by forecasts, 24 hours beginning at midnight.

Great Lakes, Ill.—Sending time, shortly after 10 p. m., seventy-fifth meridian time. Wave length, 1,500 meters.

Distribution is made from this station only during season of navigation on the Great Lakes, approximately April 15 to December 20.

Observation stations contained in first part and code letters.		Second part of bulletin.
Duluth, Minn.	DU	Forecasts for upper Lakes (Superior, Michigan, and Huron).
Marquette, Mich.	M	Forecasts for lower Lakes (Erie and Ontario).
Sault Ste. Marie, Mich.	U	Storm warnings for upper and lower Lakes.
Green Bay, Mich.	G	Location and expected movement of storm-centers affecting the Lakes.
Chicago, Ill.	CH	
Grand Haven, Mich.	GH	
Alpena, Mich.	L	
Detroit, Mich.	D	
Cleveland, Ohio	V	
Buffalo, N. Y.	F	Period covered by forecasts, 24 hours beginning at midnight.

All storm warnings issued in the forenoon for the Great Lakes also are distributed from this station about noon, seventy-fifth meridian time.

San Juan, P. R.—Sending time, 9 p. m., seventy-fifth meridian time. Wave length, 600 meters, damped oscillation first, followed immediately by 5,250 meters, continuous wave.

Distribution is made from this station only from June to November, inclusive.

Observation stations contained in first part and code letters.		Second part of bulletin.
San Juan, P. R.	SJ	All hurricane warnings.
St. Thomas, Virgin Islands	ST	In the absence of a tropical storm the following words will be sent each day "Weather normal."
Basseterre, St. Kitts	BT	
Roseau, Dominican Republic	RS	
Bridgetown, Barbados	BB	
Santo Domingo, Dominican Republic.	SD	
Puerto Plata, Dominican Republic.	SL	
Castries, St. Lucia	LU	
Willemstadt, Curaçao	W	
Port of Spain, Trinidad	PS	

Hurricane warnings also will be broadcast from this station at 10 a. m., seventy-fifth meridian time, or as soon thereafter as possible.

Storm and hurricane warnings are displayed at over 200 points along the Atlantic and Gulf coasts, including every port and harbor of any considerable importance. Flags are used by day and lanterns by night. Illustrations and descriptions of these signals will be found on pilot charts. Explanatory cards will be furnished free on application.

A similar broadcasting service for the Pacific coast is being arranged. A separate circular will be issued therefor.

C. F. MARVIN, *Chief of Bureau*

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